

between the rates for successive age-groups and produces some standard tables.

Finally, R. B. Vance and F. C. Madigan observe that women are now outliving men, and wonder if the longevity of the sexes would be the same if they followed similar life régimes. They outline and argue the merits of a plan, which they hope to pursue, for investigating the mortality of religious Brothers and Sisters whose style of living is highly similar. This is perhaps the most stimulating of all the contributions. It is earnestly to be hoped that a similar degree of penetration can be brought to bear on the greater and more urgent problems of the under-developed areas, in spite of the many practical difficulties that hedge them round.

P. R. C.

Belshaw, Horace. *Population Growth and Levels of Consumption: With Special Reference to Countries in Asia.* London, 1956. Allen and Unwin. Pp. xxix + 223. Price 25s.

THIS is a study of the problems of raising levels of consumption in under-developed countries. The central theme is the relationship between population growth and levels of consumption and the lines of inquiry are demographic, economic and sociological. The author concludes from past experience of development in such countries that a Malthusian situation obtains in them, increased productive power tending to be taken out in increased population rather than in improved consumption per head. This is because development in practice is usually accompanied by health measures, with the result that population growth is promoted ahead of the effect on productive power, and before the socio-economic changes leading to increased consumption and the desire for fewer children are under way. The author sees the need for family limitation, and advocates the inclusion of family planning programmes in development plans and their integration with them.

The way in which total production depends on the size of the labour force, on the amount of capital and on innovations is

studied econometrically using the Cobb-Douglas production function. This tool of analysis enables the author to examine the laws of factor returns, and to assess whether there are economies of scale. The assertion sometimes made that at full employment growth of population—the usual consequence of improved health measures—will lead to increased production per head is examined in detail. The conclusion is reached that such economies of scale do not occur and that where such effects have apparently been observed, there have been accompanying (though not apparent) increases in capital; for if output per head is to increase cumulatively capital has to grow at an appreciably faster rate than population.

The form which the capital accumulation takes is important. The author argues that in the short run a unit of investment in a labour-intensive industry or process will yield a greater amount of employment than a unit in a capital-intensive type. Comparatively inexpensive investments in tools, wells, fertilizers and improved seeds can produce relatively greater benefits than a few large capital projects operated in conjunction with less labour. Manpower is the most abundant resource, and should be utilized accordingly. The use of the more expensive kinds of capital equipment in the process of capital creation should be avoided wherever possible, and he advocates the use, for example, of buffalo carts and dirt rather than bulldozers, cement and concrete for erecting barrages. His concern is to promote a widespread diffusion of capital mainly in the form of simple devices for improving the effectiveness of labour. Light consumer industries should therefore be developed first, followed by medium industries with heavy industry last.

The accumulation of capital requires savings, but their level in under-developed countries is low. Foreign aid obviously plays an important part, especially in initiating investment, but the under-developed country itself necessarily has to provide much of the capital. Methods of increasing savings are examined; private savings show little prospect of increasing sufficiently, and forced

savings by taxation requires more efficient collection and less evasion of taxes than is common at present. Inflation, or deficit financing of public investment, has adverse consequences, but nevertheless some resort to the method may be inevitable. Means of transferring under-occupied labour to capital formation require promoting. The author emphasises, however, that capital is not the only innovation necessary for increasing production, and that changes in attitudes, practices and institutions are equally important.

The book is well written and will be of great interest to all concerned with the economic problems of under-developed countries. The method of development proposed, with its emphasis on organising rural people to help themselves more effectively, offers a realistic approach to the solution of these problems. The economic, sociological and demographic elements in the author's argument are skilfully interwoven and are clear and convincing. The Cobb-Douglas equation is used effectively as a tool of analysis in a way that will cause the non-mathematician very little trouble. Professor Belshaw draws on his own vast practical experience for the many illustrations he gives of conditions mainly in Asian countries and of the effect of various industrialization measures on them. The book is issued under the auspices of the International Secretariat of the Institute of Pacific Relations and is part of a wider study by the author, for which the present work is undoubtedly but an appetizer.

C. J. THOMAS.

Das Gupta, A., Som, R. K., Majumdar, M. & Mitra, S. N. *The National Sample Survey: No. 7—Couple Fertility*. Calcutta, 1955. Department of Economic Affairs, Ministry of Finance. Pp. vi + 199.

THE Indian National Sample Survey was instituted in 1950 and since then has investigated, twice every year, representative selections of about 10,000 households spread throughout the sub-Continent. On some of the occasions questions relating to family

size have been included in the inquiry schedule. The resulting data are likely to prove of considerable value to demographers, all the more because birth registration in India is too incomplete to provide a trustworthy measure of fertility—and the available census statistics are also unsuitable for this purpose.

In the second "round" of the survey, details were sought of the ages of husbands and wives, both at their marriage and at the time of the inquiry; the duration of marriage at the birth of each of their children; the sex and age of each child; and the age at death of any deceased members of this family group. It is to the information derived from these details that the present report mainly refers, but some data collected in another inquiry (the fourth "round") are adduced here and there in confirmation. The emphasis on the word "couple" in the title of the volume is deliberate, and signifies that the intention has been to consider family units as a whole rather than, for instance, to measure fertility as a function only of the female sex.

One big objection to the collection of particulars of past events, in any type of investigation, is that the memories of people interviewed may be faulty. The longer ago an event occurred, the more likely it is to have been forgotten or at least to be regarded inaccurately. This difficulty is well known to the authors of the report, who term it "recall lapse." How well memory works depends on the importance attached, by the person interviewed, to the events under consideration. Evidently, to the Indian mind, the birth of a son is much more significant than the birth of a daughter; this is apparent from the results obtained from the second round of the sample survey, which are as follows:

<i>Year of marriage</i>	<i>Ratio of number of boys born to number of girls born (rural areas)</i>
Before 1910	1.32
1910-1919	1.22
1920-1929	1.24
1930-1939	1.10
1940-1951	1.07

There seems little doubt that the true masculinity ratio is, and has been throughout